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Bulletin P4 *Quality lamb production*

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C. W. McDonald
Iowa State College

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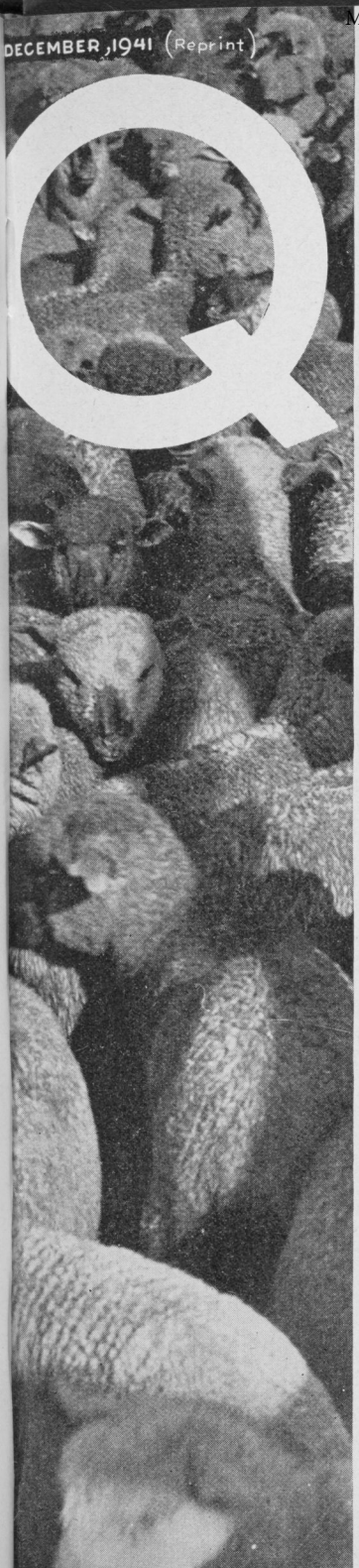

Quality LAMB PRODUCTION

AGRICULTURAL EXPERIMENT STATION
AGRICULTURAL EXTENSION SERVICE (Cooperating)
IOWA STATE COLLEGE AMES, IOWA

CONTENTS

Quality Lamb Production

By
C. W. McDonald*

The beginner in the sheep business should understand the present-day demand for quality lambs and wool. If he will start with the right kind of sheep and follow time-proved practices which will yield a quality product, he has every reason to expect satisfactory returns.

Economy in production is important. Sheep will utilize many weeds and unharvested crops that otherwise could not be sold. The beginner must realize, however, that he cannot rely entirely upon these cheap feeds if he is to produce quality lambs and wool; there are critical periods when better feed and care are required.

For greatest returns a knowledge of sheep is essential. This can be attained only through experience, acquired by giving the necessary time and attention to the flock at critical periods such as breeding time, the lambing season and when the lambs are young. However, one can learn much about the sheep business from the experience of others. Bulletins may be of value in pointing out proved practices. They may be used as a guide and as a reference to which one can turn when new problems present themselves.

*Acknowledgement is made to Dr. K. W. Stouder, Extension Veterinarian, for assistance with the section on "Parasites and Diseases."

ESTABLISHING THE FLOCK

SIZE OF FLOCK

It is usually advisable for the beginner to start in a modest way and grow into the sheep business. A flock of 20 to 25 ewes is sufficiently large. With a flock this size the owner can afford to purchase a good purebred ram. After gaining some experience in handling sheep it would be advisable to increase the flock to 35 or 40 ewes. A unit of this size will produce sufficient lambs and wool to be marketed to advantage.

SELECTING THE EWES

The best time to buy ewes to start or increase a farm flock is during the summer or early fall. Prices are lower at that time, and there is a larger supply available.

Uniformity in size and type are desirable. Select ewes that are active and thrifty; best results will be obtained with young ewes from 1 to 3 years of age. Observe the mouth and avoid old ewes that have lost any teeth. The udder should be sound; ewes with caked udders cannot raise lambs.

The market wants fat lambs that weigh 75 to 100 pounds at an early age. In general a low-set, level-backed, wide, deep-bodied ewe with moderate size will produce such lambs. Ewes that are too large, particularly if long legged and rangy, produce slow-maturing lambs that are often overweight when fat. Avoid narrow, upstanding and shallow-bodied ewes.

The wool should be tight, compact and of good quality. Such fleeces are heavier, brighter and better protection against cold rains and wet snow than open, fluffy fleeces.

DETERMINING THE AGE OF SHEEP

Sheepmen always "mouth" or examine the teeth of sheep they are about to buy, to see if the age is as represented. A ewe has only 5 to 7 years of useful and productive life, and the addition of a year or two to her age makes a considerable difference in her value.

The system usually followed in mouthing sheep is to determine the number of permanent incisor teeth in the lower jaw. There are no incisors in the upper jaw. When the

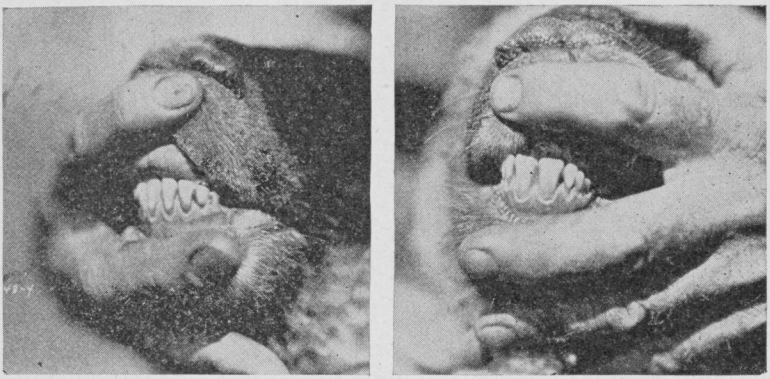

Fig. 1. Age changes in incisor teeth of sheep. Left—lamb's mouth with four pairs of milk teeth; right—yearling mouth with one pair of permanent teeth.

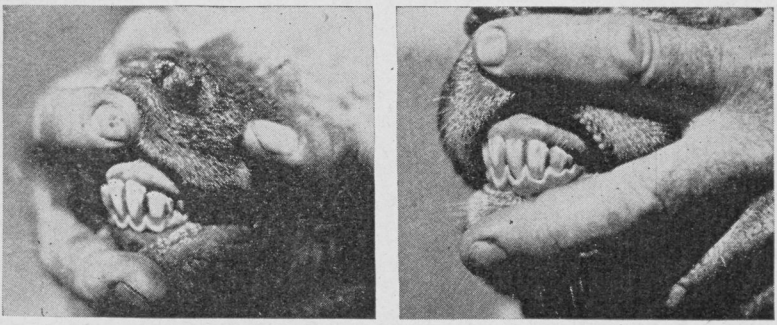

Fig. 2. Left—2-year-old mouth, with two pairs permanent teeth; right—3-year-old mouth with three pairs permanent.

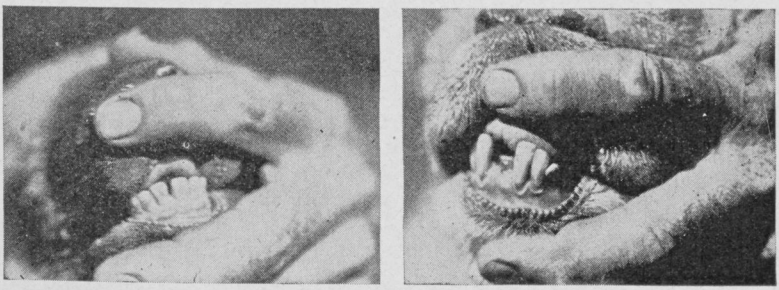

Fig. 3. Left—4-year-old mouth all permanent; right—a broken mouth.

center pair of lamb teeth have been replaced by a pair of permanent teeth the sheep is a yearling; two pairs of permanent teeth indicate a 2-year-old; three pairs indicate a 3-year-old; and when all of the lamb teeth are gone and there are 4 pairs of permanent teeth the sheep is said to have a full mouth and is a 4-year-old or older.

Beyond the age of 4 years one must estimate the age by the width of teeth, their firmness in the jaw and the extent of wear. An old tooth is narrow and not firm in the jawbone. The exact age of old sheep is not important. They are usually bought and sold on their condition as "solid-mouthed," "broken mouthed" and "gummers." Figures 1 to 3 show typical mouths of sheep at different ages.

Exceptions to the general dental table may be found. For example, a late lamb may still show a lamb mouth the following summer, or an early lamb may show a 3-year-old mouth in September when it is actually a 2-year-old.

SELECTING THE RAM

The ram that is selected to head the flock will affect the quality and feeding ability of every lamb produced. If quality lambs are to be produced one cannot afford to select anything but a purebred mutton-type ram. An active, vigorous ram from 1 to 3 years of age may be used for 2 years and then sold or traded. Like the ewes he should be blocky, thick

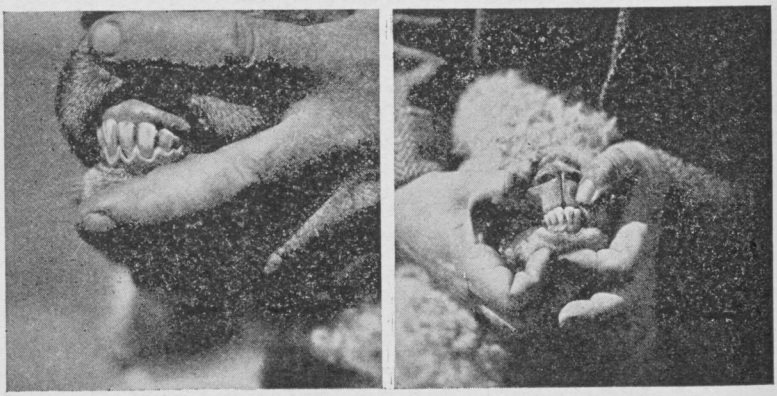

Fig. 4. Left—normal mouth. Lower teeth closing on dental pad; right—undershot mouth. Lower teeth closing in front of dental pad.

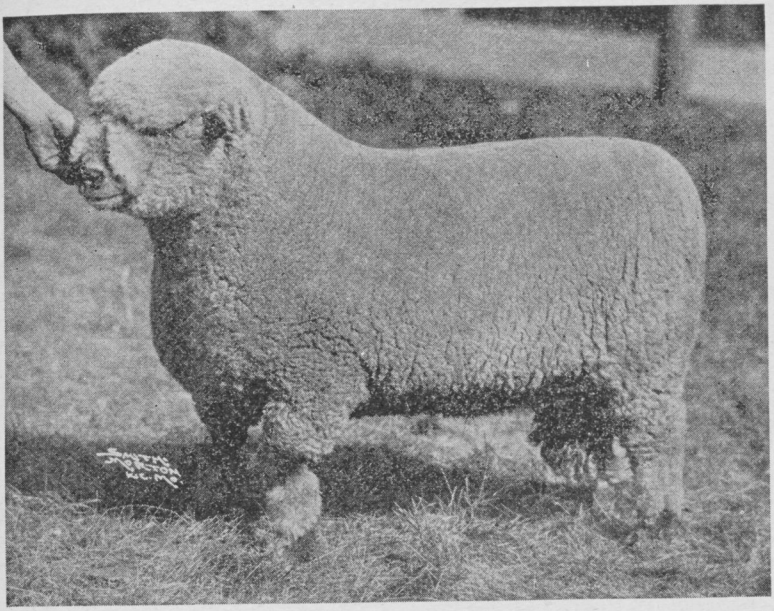

Fig. 5. A Shropshire ram. Owned and exhibited by R. C. Yohe of Allerton, Iowa.

and low-set. He should be masculine in appearance, straight and strong in his legs and have a compact fleece. Avoid purchasing a ram with only one testicle.

It is not at all uncommon to find defective mouths in the rams. Sheep have a hard dental pad instead of upper teeth. In the normal mouth the lower teeth are supposed to close on (or immediately in front of) this pad. If the lower teeth come up in front of this dental pad, the ram is said to be undershot. If they fit far back of this pad, the ram is called parrot-mouthed. The undershot defect is the more common. There are some differences of opinion as to the seriousness of these defects on the health and thrift of the sheep, but nevertheless it is a defect, and one should not select a parrot-mouth or undershot ram.

THE BREEDING SEASON

TIME TO BREED

Ewes start coming into heat with the first cool nights in the fall. In Iowa it is usually not practical to start breeding

before Sept. 1. The period of gestation for the ewe ranges from 145 to 152 days, but it is usually safe to figure on 147 days for most of our mutton-type sheep. If one wishes to market his lambs in June he should have his lambs come in February or early March. The ewes then should be bred in September or early October. Ewes bred in November will lamb in April.

THRIFT IN EWES

Steps should be taken to insure the thrift of the ewes before they are bred, so that they will be in good condition to nourish their lambs. In Iowa one can be almost certain that all ewes are infested with stomach worms, so they should be drenched at breeding time to rid them of these parasites, even though they may have been treated earlier in the season. If lice or ticks are found on the ewes they should be dipped before cold weather. Just before the breeding season is a good time to trim the ewes' feet so they will not have to be handled too much after becoming pregnant. The feet may be more easily trimmed shortly after a rain.

FLUSHING

Sheepmen know that they can increase the percentage of lambs dropped if they have the ewes gaining in weight at the beginning of the mating season. This practice of preparing ewes for mating is called flushing. Flushing also helps to bring the ewes into heat so that they may all be bred within a short period of time. With uniformity in the size and age of the lambs it is possible to bring them to market weight at about the same time.

Flushing may be done by placing the ewes on a good bluegrass pasture or on a piece of clover, alfalfa or rape for 10 days to 2 weeks before turning them with the ram. If succulent pasture is not available the ewes may be flushed by feeding about ½ to ¾ pound of grain per head daily. Whole oats or a mixture of equal parts by weight of shelled corn and whole oats are satisfactory rations for flushing.

CONDITIONING THE RAM

The ram should be conditioned for the breeding season. He should be vigorous, active and thrifty but not excessively

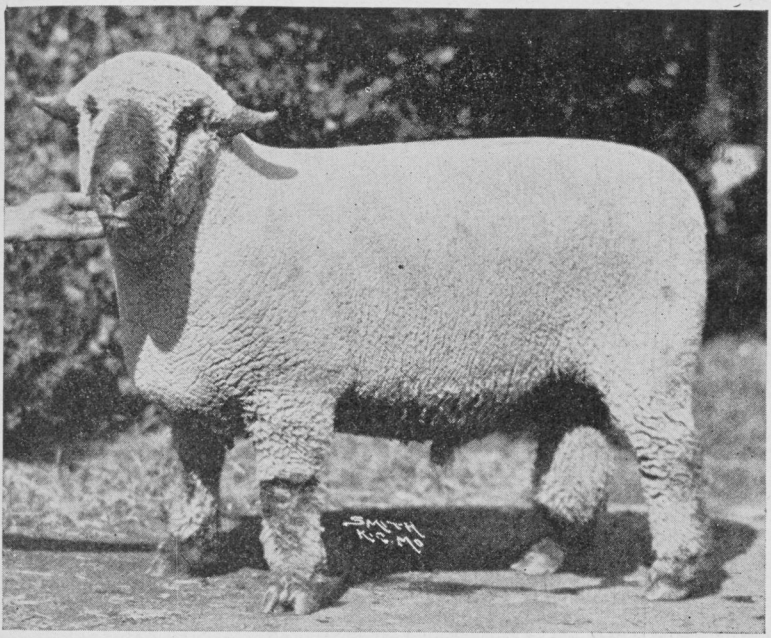

Fig. 6. A Hampshire ram. Owned and exhibited by R. E. Pullin of Waterloo, Iowa.

fat. Beginning about 2 or 3 weeks before and during the breeding season he should be fed about 1 to 2 pounds of whole oats a day.

TRIMMING THE EWES AND RAM

Before turning the ram with the ewes it is a good plan to take the shears and trim the wool and tags around the dock of the ewes to make mating easier and surer. Clipping the wool short on the belly of the ram several inches in front of the sheath is done for the same reason. Rams that are heavily wooled on the head should have the wool clipped around the eyes so that they will have no trouble in seeing.

If the ram should be too fat and slow or sluggish for any other reason it is a good practice to shear him entirely in late August or early September even though he was sheared in the spring. He will be cooler and more active without his wool.

MARKING THE RAM

Breeding records may be obtained by smearing a mixture of lubricating oil and lamp black or Venetian red between the forelegs of the ram each day so that when he breeds a ewe he will mark her on the rump with that color. The color can be changed at the end of 16 days so that a check may be obtained on any ewes that come in heat again and are rebred. This not only makes it possible to obtain the date that the first ewes are bred, but the owner may detect a non-breeding ram before it is too late in the season.

Ewes remain in heat from 1 to 3 days and if not bred repeat in from 13 to 19 days, usually averaging about 16.

HANDLING THE RAM

A vigorous ram from 1 to 4 years of age is sufficient for 35 to 40 ewes when allowed to run with the flock day and night. It is usually better, however, to keep the ram in the barn or on a separate pasture with a few lambs or bred ewes during the day and allow him with the breeding ewes only at night. Under this system one ram may be used for 50 or 60 ewes. A ram lamb may be used on a small flock up to 20 ewes if he is vigorous and well grown and when turned with the ewes only at night.

FEEDING THE RAM

The ram should be kept in good condition during the breeding season. He should receive 1 to 2 pounds of whole oats a day, and if kept in the barn during the day he should have some good legume hay, preferably alfalfa. It would be better if he had access to some pasture.

At the close of the breeding season (6 to 8 weeks) it is advisable to remove the ram from the ewes. Turn him on pasture and stop feeding grain so that he will not become too fat. Allow him to have plenty of exercise at all time.

FEEDING THE EWE FLOCK
DURING PREGNANCY

Pregnancy is one of the critical periods in sheep production. Much of the high death rate of ewes in the spring and many of the troubles experienced during the lambing and

suckling periods can be traced to the improper care and feed of the breeding ewes during pregnancy. Ewes brought up to lambing time in good thrifty condition will produce strong, vigorous lambs. Ewes in good condition will have plenty of milk and will have a reserve of fat and strength to carry them through the suckling period.

The flock owner should keep in mind that the ewe during pregnancy must not only maintain herself in good health and vigor but supply proper nourishment for the growing fetus and the fleece. Most sheepmen endeavor to have the ewes gain in weight from 15 to 25 pounds during the winter.

The breeding ewes should be brought through the winter as economically as possible but with the full realization that the ewes must receive a balanced ration which will prepare them for lambing and nourishing the lambs. During the fall months the flock will get much of their feed in the fields. Cornstalks, oat stubble, meadows, fence rows, orchards and pastures provide a variety of feed. These field feeds, especially after killing frosts, need to be supplemented with harvested feeds.

LEGUME HAY FOR ROUGHAGE

Legume hay, because of its richness in protein, minerals and vitamins and because of its appetizing qualities, is by far the best kind of dry roughage for sheep. Pregnant ewes can be carried through the winter in good condition without any other feed if they have plenty of good-quality legume hay. Alfalfa, clover and soybean hay of equal quality have about the same value as sheep feed.

For best results legume hay should be used as the entire roughage. When the supply is limited or the price of hay is high it may be advisable to substitute half of the legume hay with non-leguminous roughages such as timothy or wild hay, corn fodder or oat straw. Even then such a ration should be supplemented with some high-protein feed and ground limestone.

Corn silage of high quality is a good succulent feed for the bred ewe and will help keep down the cost of winter

feeding. Best results are usually obtained by limiting the amount to 2 or 3 pounds per head daily and by using legume hay for the balance of the roughage. Mouldy or frozen silage should never be fed to sheep.

DURING THE LAST MONTH OF PREGNANCY

About one month before lambing the ewes should be fed ½ to ¾ pound of grain in addition to good legume hay. Equal parts by weight of shelled corn and whole oats is a satisfactory grain ration. A mixture of 6 parts of whole oats, 3 parts shelled corn and 1 part protein concentrate would be better. If corn silage and legume hay are fed or if a non-leguminous roughage must be fed, the grain mixture should contain at least ⅕ pound of a high protein feed such as linseed oilmeal, cottonseed meal or soybean oilmeal. Some ground limestone or steamed bonemeal should also be fed with such a ration. The ewes should have plenty of salt and an abundance of water.

It is very necessary to feed the ewes well at this period to help nourish the rapidly developing lamb. Grain and legume hay feed at this time help to develop strong, vigorous lambs and at the same time assure an adequate milk supply for the young lambs. Because of the heavy demands on the ewe, this is no time to economize on the amount of feed.

FEEDING DURING LAMBING TIME

A few days before lambing, reduce the amount of grain fed to the ewes to about ¼ pound per head daily. This will prevent the lambs from scouring due to too much milk and at the same time will help prevent milk fever in the ewes. The ewes should show somewhat of a laxative condition at lambing time. For this reason wheat bran is a good feed to use just before and for a few days after lambing. Then the grain should again be increased gradually as the lambs develop and are able to consume more milk.

FEEDING DURING THE SUCKLING PERIOD

There is no feed equal to the ewe's milk for putting rapid gains on young lambs. During the suckling period and be-

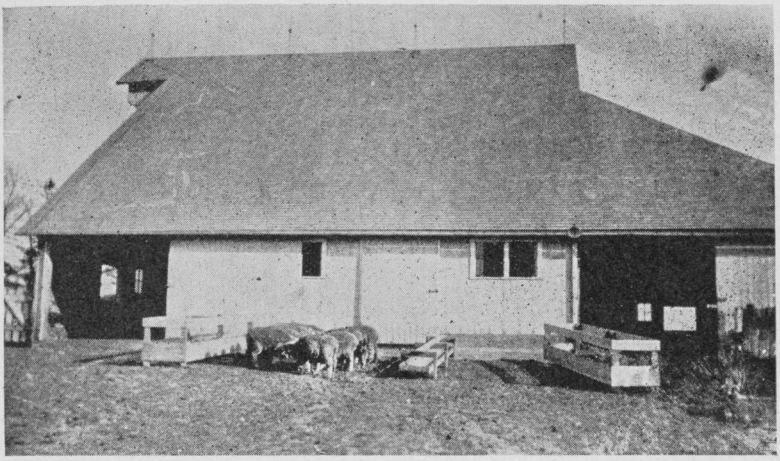

Fig. 7. This sheep barn on the A. J. Blakley farm at Grinnell, Iowa, is 62'x64'. The hay comes to the ground in a 20"x20" space in the center. There are sheds on three sides that are 22 feet wide with no posts in center. A 20'x20' feed room with wide doors is located in the front of the barn.

fore grass is available the ewes should be fed a good milk-producing ration. Feeds suggested for the last month of pregnancy should be continued, but the amount of grain must be increased. The amount required will vary from 1 to 3 pounds and will depend upon the size of the ewe, the number and thriftiness of the lambs and the amount of milk the ewe is capable of producing. The grain feeding should be continued until good pasture is available.

HANDLING THE BRED EWES

SHELTER AND EQUIPMENT

Bred ewes do not require warm barns for shelter except during the lambing season. A shed or barn with the doors wide open located so that it has good drainage will keep the ewes dry and comfortable. It will afford protection from the cold rains and wet snow which at this season soak the fleeces so that they will remain wet for days. The barn doors should be wide and the sills low so that the ewes will not injure themselves. For the same reason a minimum of 12 to 15 square feet of floor space and 18 inches of trough

and rack space for each sheep are necessary to avoid crowding. Good bedding will add to the comfort and health of the flock.

EXERCISE

Sheep do not thrive in confinement. Regular exercise will help keep the ewes in a thrifty condition and will make it easier for them to deliver their lambs. The ewes, however, should not be forced to take violent exercise by driving them through deep snow or mud. Scattering hay on the ground some distance from the barn is a device sometimes used to induce exercise during bad weather when field feeds are not available.

PREPARATION FOR LAMBING

There are a number of things that can be done to help save the maximum of good thrifty lambs. A week or so before lambing the quarters should be cleaned and well bedded. Trim the wool from around the udder to make it easier for the lamb to find the teat and to prevent the lamb from sucking a lock of wool.

Inspect the flock at least five or six times a day and at least twice during the evening. A ewe rarely lambs between 11 o'clock at night and 4 or 5 o'clock in the morning.

If the flock is large it is a good plan to separate the ewes which will be the first to lamb from the others.

The first indication of lambing is the springing of the ribs at about 3 months. A few days before lambing the rear flank will begin to drop down and the external genital organs will begin to swell. From 36 to 48 hours before lambing the teats will become full, and a few hours before lambing the ewe will become restless, paw at the bedding in an attempt to make a bed and in some cases may turn the head toward the rear quarters and bleat for her lamb.

LAMBING PENS

When a ewe becomes restless and shows signs of lambing, or shortly after she has lambed, she should be separated from the flock and placed in the lambing pen. Lambing

pens made from two panels 30 inches high and 4 feet long hinged in pairs and placed in a warm corner of the barn will help prevent many disowned lambs. The owner's attention will be directed to the ewe and newborn lamb in these small pens and enable him to detect any abnormal conditions.

THE LAMBING PERIOD

DELIVERY

Strong vigorous ewes that have been well-fed and properly handled seldom have any difficulty in delivering their lambs. Do not disturb the ewe during the first stages of labor. Allow her to produce the lamb herself if she can. If she labors hard and shows little or no progress an examination should be made to see if the lamb is in normal position. If the water bag has been broken and she does not deliver the lamb in a few minutes, assistance must be given.

Before assisting the ewe to lamb, the shepherd should take precaution against the infection of himself or the ewe. The hands and arms should be scrubbed in soap and water and the fingernails trimmed and cleaned. Bathe the hands and arms in a mild disinfectant, and then grease them with thin vaseline or mineral oil to make entrance easier. Care must be taken to avoid injury to the ewe. It would be better for a person with small hands to make the examination.

Place the ewe in a corner and have an assistant elevate the hind quarters. This procedure will allow the lamb to fall back into the uterus and make the entrance of the hand easier.

Normal presentation of the lamb is with the front legs extended and the head between or resting on them. Occasionally a young ewe will need assistance even with a normal presentation, because the head may be too large. Attempt to get the front legs out, then pull steadily on the legs and press in on the vulva just back of the lamb's head. Pull only when the ewe labors. After the head and feet are delivered the shepherd should pull the front legs outward and down toward the udder in order to deliver the shoulders. With the head and shoulders delivered, it is usually very simple to complete delivery of the lamb.

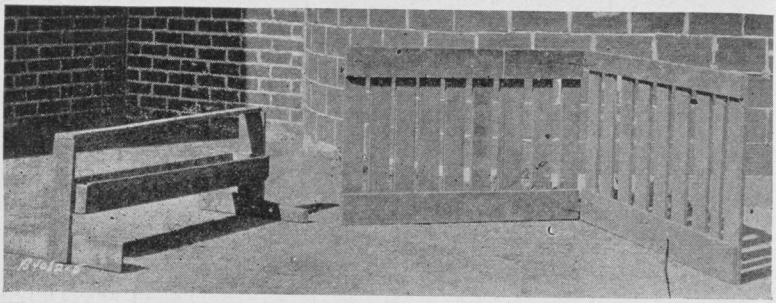

Fig. 8. Some homemade equipment. A grain bunk for lambs and a hinged panel for making individual lambing pens or lamb creep.

ABNORMAL PRESENTATIONS

A number of abnormal presentations which may occur must be corrected before the lamb can be delivered. One or both of the front legs may be back, or the head may be at the side of the legs. In any of these cases it is a good practice to place a clean piece of twine around the foot, and then elevate the hind quarters and push the lamb back into the uterus. Then correct the presentation and pull steadily upon the twine when the ewe begins to labor. If it is difficult to follow the above procedure, it may be possible to deliver the lamb with the hind feet first. There is a little more danger of the lamb suffocating with this delivery if it is delayed, since the the naval cord may break before the head is out.

THE NEWBORN LAMB

All membranes and mucus about the nose and mouth should be removed as soon as the lamb is born. If the umbilical cord is not already broken it should be pinched off about 4 inches from the body. The navel cord should then be disinfected with tincture of iodine to prevent infection.

The lamb should be placed at the ewes head so she can rest and give her attention to the lamb at the same time. As soon as it is apparent that the ewe intends to care for her lamb, it is best to go away and leave them for about 30 minutes. During this time the ewe will remove the mucus from the lamb's body and thus hasten the drying and arouse the lamb's instinct for food.

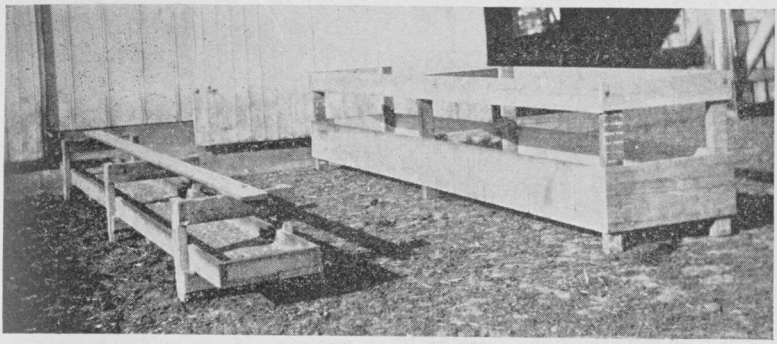

Fig. 9. A combination hay and grain bunk (right) and a grain bunk (left) on the A. J. Blakley farm. The rack is 14 feet long. The 2″x4″ posts are 32 inches long. The boards around the top are 6 inches wide, and the bottom boards are 12 inches wide with a 10½-inch space between them.

The grain bunk is made of Cypress. The bottom is 16 inches wide made with a 10-inch and 6-inch board. The sides are 4 inches high. The 2″x4″-posts are 18 inches high, and the trough is 6 inches off the ground.

THE CHILLED LAMB

In extremely cold weather it may be advisable to dry the lamb and start circulation by rubbing it briskly with warm cloths. A chilled lamb should be thoroughly warmed before returning it to the ewe to nurse. If the lamb is not badly chilled it may be taken to a warm room or wrapped in a towel and placed in a barrel half filled with short straw and containing a jug filled with warm water.

One of the best ways to warm a badly chilled lamb is to immerse all but its head in water as warm as the elbow can stand. As soon as the lamb is removed from the water it should be placed in a large towel and rubbed until dry. It is important to feed a chilled lamb as soon as it is revived and not keep it from the mother longer than necessary.

NURSING THE LAMB

A strong lamb will usually be able to nurse without assistance. Many times, however, the lamb must be assisted to find the teat. It is important to get some milk into the lamb as soon as possible. Often the teat must be placed in the mouth of a weak lamb and some milk squeezed into its throat before its appetite is aroused. After the lamb has had a good fill of milk, place the ewe and lamb in a lambing pen and allow the lamb to sleep.

Occasionally a ewe's milk does not come down at once. Then it is advisable to draw a little milk from another ewe that has more than enough for her lamb. The next best thing is to feed cow's whole milk, giving about 2 tablespoonfuls every 2 or 3 hours. The milk should be warmed to about 90° F. All utensils must be kept thoroughly cleaned.

THE DISOWNED OR ORPHANED LAMB

Orphaned or disowned lambs are frequently a problem at lambing time. Patience will usually get a ewe to accept her lamb or even adopt a lamb from another ewe. The ewe recognizes her new born lamb by smell. Sprinkling some of her milk on the lamb's rump and on the nose of the ewe will sometimes induce her to accept the lamb. In some cases tying the ewe with a small halter for a few days with the lamb in the same pen is all that is needed. It may be necessary to hold the ewe for the first few times while the lamb nurses.

An orphan lamb may be given to a ewe who has lost her lamb by skinning the dead lamb and allowing the orphan to wear the pelt for a few days.

If no ewe can be found to accept the lamb it is possible to raise orphans by hand. Milk from a fresh ewe should be provided for several days if at all possible. This may be accomplished by either holding the ewe for each nursing or by milking the ewe and feeding with a bottle. After the lamb is a few days old, cow's whole milk may be used.

The secret of starting baby lambs on hand feeding is to feed small quantities of milk frequently and not to feed too much. For the first day an ounce or less at 2-hour intervals is sufficient. As the lamb gets older, increase the amount and the interval between feedings. After 10 days three feedings per day are enough. The amount must be determined by the size and appetite of the lamb. More trouble comes from overfeeding than from underfeeding. Care must be taken to keep bottles and nipples clean, and while the lamb is young the milk should be fed at or near body temperature. The orphan should be induced to eat grain as soon as possible by running to a creep with other lambs.

CARE OF THE EWE AFTER LAMBING

Just before the lamb is allowed to nurse, a little milk should be drawn from the ewe to be sure that the milk channels are open. The ewe should be kept under close observation for several days after the lamb is born.

The flock owner should see that the ewe "cleans," that her bowels and udder are in good condition, that she is not exposed to cold draughts and that she is provided with water and sound, easily digested feed. The ewe probably will not eat for several hours, but if she has no appetite for several days, she should be given a physic of 4 ounces (⅓ pint) of raw linseed oil or 2 to 4 ounces of epsom salts in a pint of cold water. A rectal injection of soapy water is good in case the ewe is constipated.

If it has been necessary to render assistance to a ewe at lambing time (it is a good practice to give her a douche of 1 to 2 quarts of warm solution of ½ of 1 percent of carbolic acid or ½ to 1 percent of iodine. Another excellent douche can be made by mixing ½ ounce of boric acid powder with enough water to make a thick paste. Then disolve the paste in a quart of water that has previously been boiled and cooled to about body temperature (105° F.).

CARE OF THE UDDER

Examine the udder frequently to see if the lamb is taking all the milk. If not, the ewe should be milked out to prevent trouble with caked udders. Ewes with swollen udders should be kept separate from the rest of the flock to prevent spread of possible infection. The swelling may be reduced by painting the udder with tincture of iodine twice a day. Lambs should be fed by hand until the swelling subsides, because it is likely to cause them to scour.

Sore teats may be caused by the sharp teeth of the lamb. These sores should be opened as soon as they are discovered and treated twice a day with tincture of iodine.

DOCKING AND CASTRATING THE LAMBS

All lambs should be docked and all buck lambs castrated by the time they are 3 weeks old if quality lambs are to be produced for the market.

CASTRATING

Castration of lambs is a very easy operation. It can be performed by any careful person who will follow directions. Select a bright clear day when the lambs are 10 to 14 days old. Separate from the flock all lambs that are to castrated so that they can be caught easily without chasing or causing undue excitement. Place clean bedding in the ewe's pen so that the lambs will have a clean bed when they are placed with their mothers after the operation. The operator's hands must be clean and the knife disinfected. The operation can be done more easily if the operator has an assistant to catch and hold the lambs.

In castrating lambs cut off ⅓ of the lower end of the scrotum. With the thumb and forefinger of the left hand force out the testicles by squeezing the base of the scrotum next to the abdomen. Grasp the testicles (one at a time) firmly between the thumb and crooked forefinger of the right hand and draw out until the cord breaks. This work should be done quickly but not roughly, and the testicles and adhering cords should be drawn out with a steady pull.

It is not necessary to pour any disinfectant into the bag provided the operation has been done in a clean manner. It is essential that the lamb be placed in a clean bedded pen with its mother. Lambs should be kept quiet for at least 12 hours after the operation. It is best to perform the operation in the morning so that the lambs may be observed during the day. If the lambs appear stiff 2 or 3 days after castrating, catch them and open up the pockets of fluid in the scrotum.

DOCKING

The lambs may be docked at the same time they are castrated. Always castrate first and then dock. There are a number of ways to dock a lamb, but docking with a knife is the simplest and the most common method.

The tail should be removed about 1½ inches from the body. When docking with the knife, locate the joint to be cut by feeling on the underside of the tail. Pull the skin toward the body so as to have a surplus of skin to grow over the stub. After the tail has been removed, pinch the end of

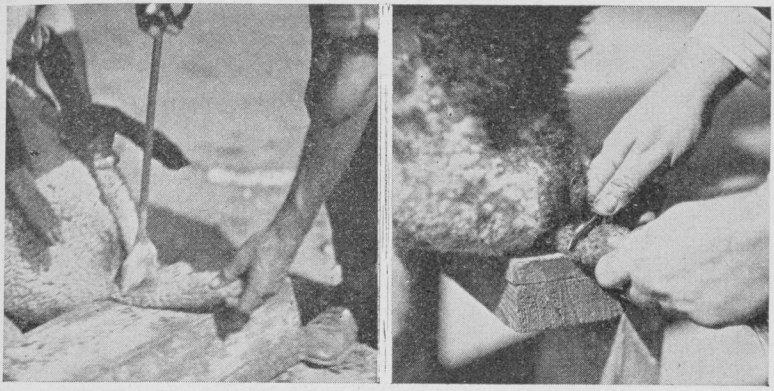

Fig. 10. Left—docking with a hot chisel; right—docking with a knife.

the stub firmly for half a minute before turning the lamb loose. This will check excessive bleeding.

Always dock and castrate lambs before flies become numerous. If this is not possible some pine tar should be smeared around the dock and scrotum as a fly repellent.

GROWING AND FATTENING THE LAMBS

The most profitable procedure with February and March lambs is to push them for an early market. Early lambs cost somewhat more in terms of labor, feed and shelter than April and May lambs, and unless marketed early, ahead of the usual summer price decline, much of the advantage of early lambing is lost. To bring top prices early spring lambs must be fat and weigh 75 to 90 pounds.

CREEP FEEDING

There is no feed like the ewe's milk for putting rapid gains on young lambs. But the lambs need some grain in addition if they are to be made ready for the early market. Grain feeding young lambs that are running with the ewes in the dry-lot can best be done by erecting a small pen or creep with openings through which the lambs may enter but too small for the ewes to pass. A clean trough for grain and a rack for hay are placed inside the creep. The grain trough should have a flat bottom about 10 inches wide and 4 inches deep. A 4- or 6-inch board running lengthwise about 10 to 12

inches above the bottom will help keep the lambs out of the trough.

Lambs will start nibbling at grain when they are about 2 weeks old. Place only a little grain in the bottom of the trough at first, and gradually increase the amount. Equal parts of cracked corn and crushed oats make a good grain mixture. Bran is a good addition up to ⅓ of the mixture. Linseed oilmeal or soybean oilmeal may be added at the rate of 1 pound to 8 or 10 pounds of grain. After the lambs have started to eat the grain, whole oats and shelled corn are satisfactory. The proportion of corn can be increased as the lambs get older.

Creep-fed lambs should also have access to the best legume hay available. A little hay should be placed in the rack in the creep in the morning, and at night any hay that is left should be given to the ewes and a fresh supply given to the young lambs.

Late lambs that are dropped on grass or in a dry-lot a few weeks before grass is available do not need to be grain fed. If the ewes and lambs are given good pasture they will get fat without the grain. Good pasture, and particularly temporary pastures to supplement bluegrass, is important if grass-fat lambs are to be produced.

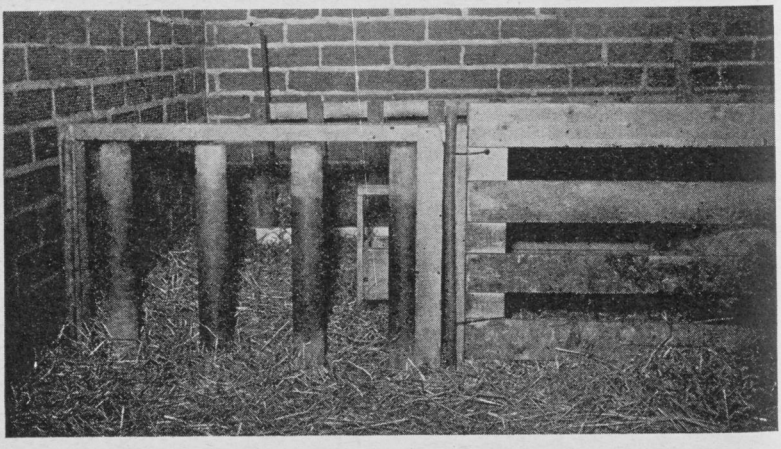

Fig. 11. A lamb creep made with rollers makes it possible for quite large lambs to pass but still keeps out the ewes.

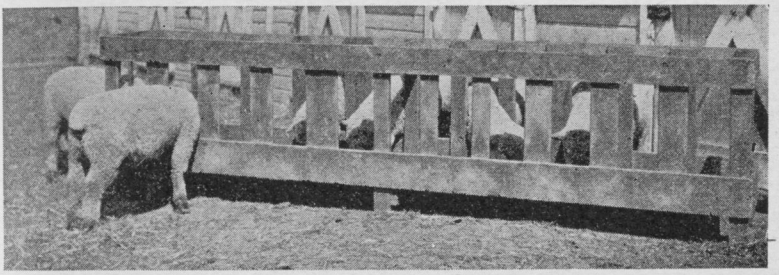

Fig. 12. Another type of combination hay and grain bunk. This type of bunk can be used as a temporary partition.

SHEEP PASTURES

The value of good pasture in the production of native lambs is greater than generally recognized. Bluegrass is an excellent pasture for ewes and suckling lambs until about the middle of June. At that time the bluegrass begins to mature and becomes dry and unpalatable. If forced to remain on this dry pasture the lambs lose flesh and many that would have graded good to choice in June would rate only medium in July.

Experiment station tests have shown that the use of succulent rotation pasture after the permanent pastures are dry, adds to the rate of gain and reduces the cost of gain. Gains on unweaned lambs with their mothers on good pasture have been as rapid as when grain was fed on bluegrass or when a highly efficient grain ration was fed in the dry-lot.

Experiments also have shown that the rate of gain can be increased and the cost of gain decreased if the ewes and their lambs are provided with a succulent pasture before the bluegrass is ready for use. Lambs that have been well started on grain in the dry-lot will continue to make satisfactory gains when they are turned on good pasture with their mothers.

Many Iowa sheepmen have had these same experiences and have found it profitable to plan a pasture program that will provide palatable forage from early spring throughout the summer, using temporary or rotation pastures before the bluegrass is ready and after it begins to dry and mature.

PASTURE CROPS

WINTER RYE

For early spring pasture, winter rye may be sown the previous fall. It is usually seeded at the rate of 1½ bushels to the acre in late August. Rye should be allowed to get a good start in the spring and then be grazed rather closely to prevent its getting rank. Rye will be ready earlier in the spring if allowed to make a good growth in the fall.

WINTER WHEAT

When wheat is allowed to make a good start in the spring it may be pastured for about 2 weeks the latter part of April without materially decreasing the yield of grain. The sheep should be removed before the wheat heads are injured.

BLUEGRASS

Bluegrass has usually made a growth of 4 to 5 inches by early May and makes excellent sheep pasture during May and early June. It is dry and unpalatable for sheep during July and August but may be used again in late August and throughout the fall.

RAPE

Rape seeded alone at the rate of 5 to 7 pounds per acre in early April makes an excellent sheep pasture by the first of June. It thrives best in cool weather and so must be

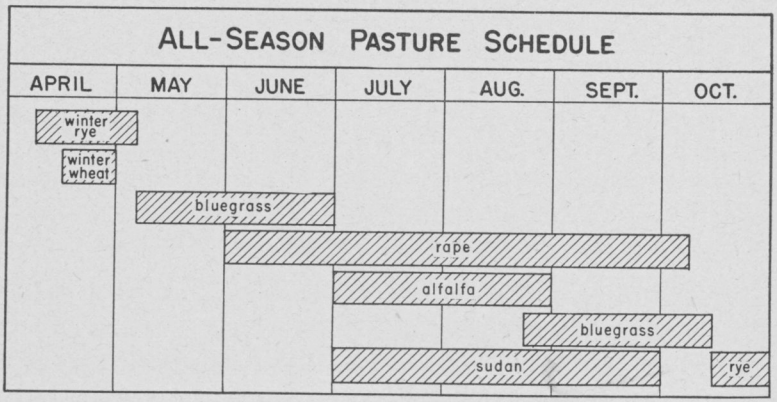

Fig. 13. Provide green succulent pasture until the lambs are marketed.

sown early in the spring on a firm well-prepared seedbed. If rape is between 8 and 10 inches high before turning in the sheep and not pastured too closely, it will grow all summer. It is usually advisable to rotate the grazing of rape by providing more than one field or by alternating with another crop such as Sudan.

ALFALFA

Alfalfa is a fine pasture for sheep, but the flock must be watched closely for bloat. If the alfalfa is allowed to make a good growth after the first cutting of hay it will usually be ready for pasturing about the first of July. There is also a little less danger from bloat if the alfalfa is given a good start after being cut for hay. The pasture may then be used until about Sept. 1. When timothy or brome grass has been seeded with the alfalfa the pasture value is enhanced and the danger of bloat decreased.

SUDAN GRASS

As an emergency pasture for July and August, Sudan probably has no equal in the amount of feed it will produce. It may be seeded from May 15 to June 15 at the rate of 15 to 20 pounds to the acre and under favorable conditions should be ready to pasture in about 6 weeks.

Sudan is rank growing and should be pastured heavily and then allowed to grow a foot or more before it is pastured again. When Sudan is allowed to make a growth of 15 to 18 inches before sheep are turned on, there is little danger from prussic acid poisoning. It should not be pastured after being set back by drouth or frost.

AILMENTS OF YOUNG LAMBS

"PINNING"

The first feces that comes from the lamb is very sticky and sometimes collects about the tail to such an extent that it is impossible for the lamb to void feces. This accumulation should be removed or the health of the lamb will be impaired.

SCOURS

There are many causes of scours in young lambs, ranging from the most serious infectious diarrhea to the common scours due to faulty feeding of the ewe. A laxative of 1 to 4 teaspoonfuls of castor oil is the most common treatment. The size of the dose depends upon the age and weight of the lamb. Strict hygiene, plenty of clean bedding in dry quarters, with rest and quiet are all important in any treatment.

SORE EYES

Lambs are often afflicted with sore eyes soon after birth. Treatment should be given at once. The eyes should be washed twice daily with a saturated solution of boric acid; if the trouble is persistent a few drops of 10-percent argyrol may be dropped into the eyes.

Sometimes sore eyes are caused by the eyelids being turned under and thus irritating the eye ball. Treatment is to trim the wool from around the eye and wash with boric acid. Badly inturned eyelids may be corrected by pulling the lid outward and using adhesive tape or chewing gum tangled in the wool to hold the lid in proper position.

SORE MOUTH

Lambs sometimes develop sore mouths with scabs over the lips. To treat remove the scabs and apply tincture of iodine to the sores.

NAVEL ILL

Navel ill in lambs is caused by pus-producing germs that enter the blood circulation through the end of the navel cord soon after birth. It is prevented by treating the cord with tincture of iodine immediately after birth.

PARASITES AND DISEASES

STOMACH WORMS

The stomach worm is by far the most harmful parasite affecting sheep in Iowa. Almost all flocks are infested. Either lambs or ewes may be affected at any time of year. Older animals can withstand the effects of the stomach worm better than lambs. The stomach worm is found in the fourth or

true stomach, where it sucks blood from the lining and throws off a poison which enters the blood stream and destroys many red cells. The trouble is usually first noticed in young lambs about the middle of the summer. Lack of thrift and loss of appetite is one of the first symptoms. The mucous membranes of the eyes, nose and mouth become pale, and the skin loses its healthy pink color. The sheep become thin and weak. In bad cases they scour and cough and sometimes swellings may appear along the abdomen and under jaw.

Fig. 14. Drenching for stomach worms. Keep the sheep standing on all four legs. Hold the head so that the nostrils are not higher than the eyes.

A solution of copper sulphate, either alone or with nicotine sulphate, is the most widely recommended treatment for the control of stomach worms. It has proved wholly effective and safe in the hands of the farmer when administered monthly throughout the year. The solution is made by dissolving 1 ounce of copper sulphate crystals in 3 quarts of water. Larger quantities can be mixed in the same proportions. It should be mixed in a glass or earthenware container and stirred frequently while using.

The combination of copper sulphate and nicotine sulphate may be made by adding 1 ounce of nicotine sulphate to each gallon of the above 1-percent copper sulphate solution.

The feeding of copper sulphate powder or tobacco either in the feed or mixed with the salt has proved ineffective against stomach worms in tests at Ohio and West Virginia.

TREATMENT

Sheep to be treated should be kept from feed and water for 12 to 18 hours before drenching and for 4 to 6 hours afterward. The following doses are recommended for either the copper sulphate or the combination drench:

Lambs 40 to 60 pounds	1 to 1½ ounces
Lambs 60 to 80 pounds	2 to 2½ ounces
Sheep 80 to 100 pounds	2½ to 3 ounces
For large, strong sheep over 100 pounds	3 to 4 ounces

The size of the dose for each individual in the group as given above depends on weight, condition and age. It is important to give the right amount, as too much is dangerous and too little is ineffective.

Dr. W. K. Stouder, extension veterinarian, suggests the following steps in drenching sheep for stomach worms:

1. Crowd the sheep into a small pen to avoid catching them and reduce the excitement. Straddle the head of each one while administering the drench. Mark each sheep with chalk as drenched to avoid giving a double dose.
2. Keep the sheep standing on all four feet and the head so held that the nostrils are not higher than the eyes. This is important, as a higher position of the head makes swallowing so difficult that the drench may go to the lungs and produce a fatal pneumonia.
3. Administer the dose carefully watching to see that the animal is swallowing the fluid as it flows into the mouth.
4. The drench may be given with a dose syringe or a funnel and tube or a drench bottle. Keep the metal pipe or syringe tip between the back teeth of the

sheep and let him chew it. This encourages the sheep to swallow.

5. Flocks badly infested with stomach worms should be treated every 4 weeks for 8 to 10 months. After the parasite is under control three or four treatments during each grazing season will be enough.
6. Frequent rotation of pastures together with the use of forage crops and a water supply from cased wells in tanks or troughs frequently cleaned helps to reduce parasitic infestation.

SHEEP TICKS

This external parasite of the sheep is very common in Iowa. The sheep tick obtains its nourishment by sucking blood through the skin on any part of the body. In this way it causes irritation resulting in uneasiness, loss of wool by rubbing and general lack of thrift in the flock. Ticks can be found by opening the fleece, as they usually stay on or near the skin. The sheep tick is rather flat, reddish brown in color and somewhat smaller than a common fly.

Ticks can be controlled by dipping, which is best done soon after the ewes are sheared. Both lambs and ewes must be dipped. The standard dips, either arsenical or coal tar, can be used if directions coming with them are carefully followed. Dipping must be done on a warm day and preferably early in the morning to give the sheep time to dry. When a flock of sheep is free from ticks care should be taken when new sheep are added that ticks are not brought in.

MAGGOTS

Wet or filthy spots in the fleece and open wounds in the skin attract the maggot fly in warm weather. Eggs are laid in such places and hatch out in a few hours. Maggots then eat their way through the skin and into the flesh. A sheep with maggots is restless and reaches for the affected part with its mouth.

To treat sheep infested with maggots, first clip away any soiled tags of wool or sloughing skin. Wash the wound thoroughly with a 2-percent solution of coal tar dip, and

provide as good drainage as possible. Chloroform or benzol poured into the wound will kill the maggots. Remove the dead maggots, and then further apply some pine tar as a fly repellent to prevent further infestation of the wound.

GRUB IN THE HEAD

This trouble is caused by larvae which have worked their way into the nasal sinuses in the sheep's head. The irritation causes great discomfort and in late winter and early spring brings a bloody discharge from the nostrils and frequent violent sneezing. Treatment is largely preventative, as once the larvae have entered the sinus they are difficult to reach.

The sheep bot-fly is responsible for this trouble. It deposits the living larvae in the sheep's nostrils during the summer months. This can be best prevented by smearing the nose with pine tar or making the sheep smear its own nose by putting the tar on a narrow salt box.

BLOAT

This ailment is caused by a rapid fermentation of feed and production of excess gas in the paunch. Heavy feeding on green alfalfa, clover, rape or other forages is usually the cause. Grazing on such crops does not always cause bloat, however, and danger from bloat should not prevent their use. Sheep should be watched rather closely when on such grazing and should not be put on when hungry. Some believe that the danger is greatest after heavy dew or rain, but experience with the flock at Iowa State College indicates that most trouble comes in the afternoon. In spite of all known precautions, cases of bloat will sometimes occur, and they develop rapidly. Different treatments are recommended. A drench of 1 pint of freshly drawn cow's milk is effective if it can be administered quickly. A small stick used as a bridle bit will sometimes help by keeping the mouth open and allowing the gas to work off. In bad cases the only effective remedy is the use of a trocar inserted 3 inches in front of and a little below the hip bone.

PREGNANCY DISEASE

Pregnancy disease is the cause of heavy losses of breeding ewes every year. It is most likely to occur during the last 4 to 6 weeks of pregnancy, and the affected ewe is almost invariably carrying twins or triplets. The majority of cases occur in flocks where the ewes are in poor to fair condition of flesh.

The early symptoms are usually unsteady gait, stiffness and a tendency to lag behind the flock. Ewes are dull, and sometimes the head is held upwards, the neck is stiff, and the animal seems to be blind. In a short time they go down and are unable to rise and seem to be paralyzed. The death rate of those visibly affected is high unless lambing takes place in the early stages.

No satisfactory treatment has been found for pregnancy disease, but good results may be expected in its prevention if prompt action is taken. At the first symptom of the disease the ration for the pregnant ewes should be promptly changed and a good legume hay made a very large part of the roughage allowed them. Each ewe should be allowed about ½ pound of grain per day. Whole oats or a mixture of 6 parts oats and 3 parts corn is satisfactory. The legume hay and a sharp reduction in the amount of corn fed seems to be fundamental. Exercise of the ewe flock is also believed by some to be of value in preventing pregnancy disease.

It is possible that pregnancy disease may occur even though a good ration is being fed. Since the disease is distinctly one of undernourishment, the ewes may be infested with internal parasites and, therefore, may not keep in condition even though fed a good ration.

CONSTIPATION

Frequently young lambs show symptoms of constipation by straining and hard, dry droppings. An enema of warm soapy water and a teaspoonful of castor oil will relieve the condition.

SHEEP SCAB

Sheep scab is undoubtedly the most important external parasite of sheep. It is a highly contagious skin disease

easily transmitted from one sheep to another by contact and spreads very rapidly once established.

When sheep become scab-infested the skin is red and inflamed, and the animals begin to itch and then rub or bite themselves. Serum flows from the wounds of the skin and dries in hard crusts and scales. Wool is shed in patches.

Scab is caused by very small mites which burrow into the skin. Dipping is the only certain cure for this parasite. Lime-sulphur or nicotine sulphate are the preparations most commonly used. Liquid or dry lime-sulphur may be used when mixed according to directions on the container. Nicotine sulphate of 40-percent strength is used at the rate of 1 part nicotine sulphate to 200 parts water. One can of lye dissolved in each 75 gallons of water softens the water and makes the dip more effective. Keeping the temperature of the dip at 100° to 105° F. also aids in its effectiveness. Repeated dippings 10 to 14 days apart are necessary for complete control.

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